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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,578	08/18/2003	Nicholas Leventis	423.019US1	3949
21186	7590	09/14/2006		
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402				
			EXAMINER COONEY, JOHN M	
			ART UNIT 1711	PAPER NUMBER
DATE MAILED: 09/14/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,578

Applicant(s)

LEVENTIS ET AL.

Examiner

John m. Cooney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-23, 25-31, 36-64, 66, 67, 69 and 70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-23, 25-31, 36-64, 66, 67, 69 and 70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>0606</u> . | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6-28-2006 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25-31, 36-43, and 50-64, 66, 67, 69, & 70 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 25, 39, 50, and 66,67,69 & 70 lack support for the recitations pertaining to - the crosslinking agent being deposited on the surfaces surrounding the

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internal pores of a preformed sol-gel material, the cross-linked sol-gel material being stronger or more robust than a non-crosslinked sol-gel material, solvent exchange operations, and employing surrounding areas as templates, respectively. Support for these limitations now set forth in the claims is not provided for in the originally filed supporting disclosure. This is a new matter rejection.

Applicants' arguments have been considered. However, rejection is maintained for the reasons set forth above. Though support for particular embodiments of applicants' invention are demonstrated in applicants' reply, support for these claim elements for the range of compositions now claimed is not seen.

Specific to claim 25, it is not seen how the disclosure of the necklace arrangement and corresponding "necks" at page 5 of applicants' supporting disclosure provides support for the limitation of claim 25.

Claims 25-31, 36-43, 69, and 70 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "silica aerogel monoliths prepared from sol-gel materials based on silica", does not reasonably provide enablement for any "porous material from any sol-gel material". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. Applicants' supporting disclosure does not provide enablement for practice of the full scope of the instant claims as they are now recited without undue

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experimentation being required. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404.

Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims are confusing as to intent because the basis for the strength or robustness values defined by the claim can not be determined because it is not indicated to what "non-crosslinked sol-gel material" the cross-linked sol-gel material of the claim is being compared.

Claims 1-5, 7-23, 25-31, 36-64,66,67,69, and 70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' claims are confusing as to intent, because "sol-gel material" is particularly defined in the supporting disclosure to mean "a material that results from a sol-gel process as is known in the art and described herein", and such a definition is not definitively identifying what materials are included or excluded by the meaning of this term in the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 7-17, 20-22, 25-31, 36, 39-64, 66, 67, 69, and 70 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawakami et al. (6,364,953).

Kawakami et al. disclose preparations of crosslinked silica aerogels, prepared by forming a sol-gel material combined with gellation initiator, solvent to form a wet-gel film followed by drying through supercritical and sub-critical drying processes, which read on the products and processes of applicants' claims (see column 7 lines 39-44, column 15 line 3 – column 20 line 40, and example 1, as well as, the entire document).

Applicants' argument have been considered, but rejection is maintained for the reasons set forth again above. Claims rejected are maintained to employ an agent for crosslinking to the degree required to meet the claims as they stand without specific crosslinking agents being recited in the claims. That crosslinking occurs in the materials of Kawakami et al. is inherent evidence that an agent for crosslinking is present in the materials of Kawakami et al. to the degree currently required by the claims. Applicants' new claims 66, 67, 69, and 70 have been considered, but employment of solvent is disclosed by the teachings of Kawakami et al. as indicated above, and the recitations as

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to the behaviors of the materials involved are held to be inherent features associated with the materials of Kawakami et al. based on the likeness of the materials employed.

The material of Kawakami et al. that is being crosslinked serves as the crosslinker as well since it is its structure which is part of the crosslink upon crosslinking, and thus reference meets the limitations of the claims as they currently stand.

Claims 1-5, 8-23, 25-31, 37-64, 66, 67, 69, and 70 are rejected under 35 U.S.C. 102(b) as being anticipated by Biesmans(5,990,184).

Biesmans disclose preparations of isocyanate crosslinked aerogels prepared by forming a sol-gel material as defined by applicants' claims, solvent to form a wet-gel film followed by drying through supercritical and sub-critical drying processes as defined by applicants' claims, which read on the products and processes of applicants' claims (see the entire document).

Claims 1-5, 7-23, 25-31, 36-64, 66, 67, 69, and 70 are rejected under 35 U.S.C. 102(a) as being anticipated by Leventis et al. (Nano Letters document).

Leventis et al. disclose preparations of isocyanate crosslinked aerogels prepared by forming a sol-gel material as defined by applicants' claims, solvent to form a wet-gel film followed by drying through supercritical and sub-critical drying processes as defined by applicants' claims, which read on the products and processes of applicants' claims (see the entire document).

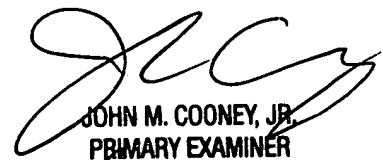
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Cooney whose telephone number is 571-272-1070. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JOHN M. COONEY, JR.
PRIMARY EXAMINER
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